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LEADING ARTICLES

THE MEDICAL TREATMENT OF GALL-STONE DISEASE.*

REYNOLD WEBB WILCOX, M. D. LL. D.

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THE physician concedes that the treatment of gallstones is exclusively surgical. However, the treatment of gallstone disease, both before surgical intervention and after the removal of gallstones is entirely medical. In confirmation of this statement are the following facts pointing to the liver as the point of origin of many, probably most gallstones: 1. The continual discharge of gallstones through a biliary fistula after thorough surgical intervention for their removal which is sometimes observed. 2. Cholecystectomy is not always followed by a cessation of biliary colic. 3. Large stones have been found free in abscess of the liver. 4. Roentgen ray plates show gallstones in situ in the liver.

It may be definitely stated that gallstones of hepatic origin are chiefly calcium bilirubin in composition, while those usually found in the gall bladder are mostly cholesterin.

Infection is an important factor, which may be transmitted by the intestinal canal or by way of the portal vein. The contributing causes are (1) foreign bodies; (2) stagnation of bile; (3) chronic venous congestion in the portal system, which may be due to (a) cardiac disease, (b) pulmonary disease; (c) intestinal catarrhs, (d) mechanical, as (1) pregnancy, (2) visceroptopsia, (3) an overfilled hepatic colon, (4) displaced duodenum, or (5) lowered vitality.

That these causes are operative is shown by the fact that gallstones are found in from six to ten per cent of all cadavers (three-fourths of these are in persons over 40 years of age). However, symptoms are present, or at least of sufficient gravity to earn record, in only about five per cent of all gallstone bearing subjects.

The purely medicinal treatment is not predicated upon the use of any substance which may be claimed to dissolve stones, nor does the fact that symptoms of the presence of gallstones have not been evident after prolonged use of Durande's mixture or the olive oil treatment prove the contrary. The use of sodium salts of bile acids and of sodium succinamate, no matter what the dose has been, has yielded no satisfactory results in my experience. On the other hand, a remedy which tends to diminish bacterial invasion and to promote the discharge of non-viscid bile certainly is indicated. If, in addition, a laxative which at the same time inhibits bacterial activity in the intestine can be added, the therapeutic indications can be met. A combination which proves effective appears under various formulas, the amounts indicating grains, as follows:

	Wilcox.*	Davis.†	Bauermeister.‡
Acid sodium oleate	1½	1	..
Sodium oleate	..	..	1⅓
Sodium stearate	..	..	⅔
Salicylic acid	1½	1½	⅓
Phenolphthalein	1	⅓	⅙
Menthol	¼	1/10	½

In my formula, the large amount of phenolphthalein employed is based upon seven years use of the remedy, but is too large for continuous use or for patients readily purged. The salicylic acid is larger than should be employed for long periods of time. The formula is intended for more acute conditions, and not more than three or at most

*Read before the Medical Association of the Greater City of New York, Nov. 18th. 1907.

*Journal American Medical Association, August 4, 1906.
† Therapeutic Gazette, June, 1907.
‡ Journal American Medical Association, Nov. 2, 1907.

four capsules, each containing the amounts indicated should be given each day. The Davis formula is difficult pharmaceutically to exhibit in pill form, and the same objection applies to the salicylic acid as in the first named prescription. The Bauermeister formula can be employed to eight pills daily for months, should it be necessary, although it is not so satisfactory in fairly acute conditions, or if the patients are inclined to constipation and for those who bear salicylic acid well. The only other remedy which is of importance in this connection is amyl valerate, in fifteen minim dose, which may be taken at half hour intervals For several years its beneficial effects in relieving spasm and moderately severe colic have been known and utilized.

A regulation of the diet is important, and frequent meals to insure a continuous flow of bile must be insisted upon. The following is fairly representative:

DIET TABLE.

First breakfast (8 a. m.,) black coffee, cocoa, milk (in whatever form it is agreeable, but not too hot and with little cream), rolls, with some butter, meat, one egg.

Second breakfast (10 a. m.) Meat, one egg, bread with butter, oranges; or, in place of these, carbonated waters, with light wines.

First principal meal (1 p. m.). Soup, fish, vegetables, fruit, with the exception of sour apples and gooseberries.

First supper (5 p.m.). Tea, coffee, cocoa, with rolls.

Second principal meal (8 p. m.). Broths, soup, roasts, bacon, bread with butter, light beer or light wine, diluted.

Second supper (at bedtime). Slice of bread and butter.

Of allowed foods, the following precautions must be observed: Only six or seven ounces of bread each day; all meats should be lean; vegetables should be cooked only in salt water; at most, two eggs each day are allowed. Drinks which are permitted are black coffee or tea; lemonade, selters, red wine, or Moselle wine and selters.

Forbidden are: All strongly spiced or peppered soups; heavy bread and dumplings; sweet, heavy puddings with much sugar; fat and with difficulty digestible meat; salmon, eels, flounders, herrings, crabs and mussels; pork, mutton, goose, duck, brain, liver, kidneys, fresh sausages and sweetbreads. All fat cheeses; the entire cabbage family; all dried beans, lentils, peas, garlic, onions, and especially radishes. Fresh fruit from the tree, raw; all kinds of sour apples, currants, gooseberries and cherries. Oils of all kinds, remolades and Mayonnaise; condiments, such as pepper, mustard and allspice; fat sauces; and drinks, such as cognac, arrack, rum, sherry, liqueurs, porters, ale, dark beer, Rhine wine and hock. The main points in the treatment are the relief of the congestion and inflammation in the portal system, and to diminish the infections and catarrhs of the bile ducts and gall bladder. With this plan of medication and diet, it is believed that much can be accomplished in the treatment of gallstone disease.

THE LOSS OF APPETITE.*

J. F. CHANDLER, PH. G., M. D.

FOREST CITY, MO.

On reading text-books on digestive disorders I have been struck by the little to be found concerning the loss of appetite and the restoration thereof. In fact in the books I have examined little is said on the subject. Realizing the importance of the subject, and yet aware that I am unable to bring out many of the important points—especially so with the little time to prepare this article—I am led to believe that no paper is ever written in vain if it suggests to other minds a train of thought along some important line. I shall consider the appetite from the standpoint of a general practitioner, or, as I think it most concerns the medical man in his daily work or practice, and will not enter into the consideration as Goodall (Lancet, Dec. 21, 1907) would have us do, from a psychological physiological and psycho-physiological standpoint. While realizing the importance of this classification, I will content myself by considering the loss of appetite, and suggesting some means for the restoration thereof. It does not concern the general practitioner in so much as to where the sense of hunger originates—whether in the brain, stomach or tissues—as do the causes which destroy and the means of restoration when it is lost. It is to this end I would direct your attention.

The appetite may be said to be the natural desire for simple food with which to supply the needs of the body. We are aware that the appetite may be very capricious at times. It may be faulty, a complete loss of, or there may be an abnormal craving for food.

Some of the things which may cause the loss of appetite or create a disgust for food aside from fevers, anemia, gastric disorders, etc., are depression from mental emotions,

* Read before the Holt County Medical Society at Mound City, July 2, 1913.

especially worry, grief, anxiety, and despondency which may be due to confiement in a dark room—or even the colors of the walls of the room—lack of cheerful surroundings, of pleasant companions; or the personal appearance of the nurse may be such as to cause disgust for herself and the food she may bring. The appearance of the food, irregularity of meals, foul breath as a result of decayed teeth; a filthy condition of the mouth in enfeebled patients as a result of uncleanliness, permitting the remains of food to ferment or decompose, thereby resulting in an unpleasant odor and a disagreeable taste. To continue the use of the same kind of food for too long a time, or possibly even the too long use of the same dishes, napkins, etc., as variety is the spice of life, one tires of the sameness of things and 'tis needful to have a change. Overeating or over-indulgence in the use of spirituous liquors, and the use of cough syrup containing opiates also have a tendency to dull the appetite and too long continued may bring about anorexia. One may become so weakened by disease that the facial muscles become relaxed, allowing the jaw to drop, the mouth remaining open becomes dry and as a result of bacterial growth from the accumulation of the remains of food there develops an unpleasant taste and a sticky condition of the mouth which dulls the sense of taste and all things are unpalatable and disgusting. Some particular food, or the conduct of the one preparing the food may create disgust. For instance, an untidy, careless nurse who in serving the patient permits the food in the dishes to slop over, allows them to become mussed, thereby making a mess of it with the result of turning the stomach of the patient and the food becomes repulsive.

Owing to an idiosyncracy on the part of many patients there are some medicines which creates nausea or may destroy the appetite, and should the desire for food become less to one taking treatment, a change of medicine may bring about the result desired.

As febrile diseases resulting in disordered secretion are manifested by deficiency in the salivary, gastric, intestinal and nephritic secretion, the tongue becomes coated, a sticky or clammy condition of the mouth existing, and a dryness of the mucous membrane of the stomach, and as a result the appetite suffers, and to restore the appetite in this case as in many others as well, it is necessary to arouse the glandular system to action by small doses of calomel, and the use of simple bitters, such as tinctures nux vomica, gentian compound and columbo, and clean up the system by removing the waste of tissues by means of diuretics, diaphoretics, and cathartics if necessary. It is also well to keep the mouth free from remains of food taken; food should be given at regular intervals. Cleanliness, ventilation and sunlight, as well as cheerfulnes on the part of the attendant, are some of the means for restoring the appetite.

Anorexia in the anemic—sunbaths, massage, gentle exercise in the open air are means of bringing about a desire for food and in conjunction with small doses of arsenic, or an organic preparation of iron with a laxative if needed, we may see the appetite return and the cheeks assume their accustomed glow.

In gastric disorders, especially of nervous origin, many refuse to eat for fear it will hurt the stomach, when in fact, in many instances, could they be led to think of something else during their meals other than the distress to follow eating they would not suffer, and after a time would take food and digest it. I have seen a consumptive refuse food when on changing the dishes and the color of the napkins each day she would take her food with a relish. In placing the food in the dishes let them not be filled, and have the food placed in the center of the dish without mussing the sides of the dish. The relation existing between the nurse or those with whom the patient comes in contact should be pleasant, and the attendant should be cleanly in her habits, neat in appearance and there should be nothing about the person to create disgust. She should be of a cheerful disposition, and her conversation should be uplifting, such as might inspire hope. For to insure bodily condition of perfect health it is absolutely necessary that the mental state shall be wholesome. "The mind in its general operations must be calm, hopeful and confident." To those who suffer from mental trouble (gloomy, etc.) accompanied by anorexia we may see the appetite return on changing the patient from a dark room, or a room the color of the walls which create gloom, to a well-lighted room into which the sunbeams play. The tendency of sunlight is to beget appetite (Shoemaker and Aulde). The patient should not be permitted to drop into a condition of lethargy, but our efforts should be to arouse and create within him a desire to "be." In a sad morose, irritable patient music may be the means of arousing him to renewed energies and create a desire to take food. A good rule to be observed in every case is, the food should be well chosen, daintly prepared, cleanliness observed in preparation and serving of same, and see to it that the patient is in a comfortable position while taking his meals.

To quote authorities: "Static electricity increases both the appetite and the body weight

where the latter has been reduced by impaired nutrition." "It sets free the potential energy of the cells." "In a word, it excites and facilitates the play of all functions." I have seen the appetite improve and a patient gains five pounds in weight in twenty-two days on treatment by static electric saturation (on the table with the positive pole) every other day for fifteen minutes at each sitting.

As the causes for inappetence are many and varied, owing to individual peculiarities as to likes, and dislikes, it would be impossible to mention all as new ones arise from time to time and have to be met by the physician.

SOME PRESENT-DAY PROBLEMS OF BIOLOGIC CHEMISTRY.

JOSEPH CLEMENTS, M. D.

WICHITA, KAN.

UNDER the above title the distinguished physiologist, Professor Chittendon, contributed to a recent number of "Science"* a most masterly discussion of the questions involved, and which are confessedly the most vital problems before the scientific world at this hour. And this because the nature of man as a cosmic factor, and particularly the active factor in construction of cosmic philosophy, was never realized as so important to be understood and accounted for as at this time The discussion also has application to medicine, as suggested by the author. Reading and highly appreciating the address from a physician's point of view, yet demurrer must be made to some positions and conclusions stated on the ground, the writer believes, that these are reached in non-recognition or insufficient recognition of some fundamental facts in the organic phenomenon. If these facts and data are given their correct place in the "constructed picture of the nature of the vital processes" (Virchow) a different method in solution of the problems would be suggested, and probably different conclusions reached.

On page 242, at the outset of the discussion, after noting that "the study of function has come to occupy a prominent position . . . and the experimental method is being largely applied," a matter weighty in importance, the author's position as basic in the argument is stated as follows: "It is well understood today that all the phenomena of life are to be explained on the basis of chemical and physical laws," etc. This must be stoutly challenged. A consensus of scientific opinion and assent would alone make the assumption tenable, which surely could not be obtained.

Over against this may be set the statement of the position itself. All life phenomena "*are to be* explained" on the basis here laid down. They are *not* so explained, as yet. A consensus of the science mind would not be difficult to obtain that this, however desirable result, is *yet to be* attained—witness the author's discussion, and recognition of our fact all through.

Physical and chemical factors and principles are not all that is cosmically recognizable, yet all are ruled out as applicable here if this foregone conclusion be arbitrarily pressed and accepted.

In this same paragraph it is admitted that "the physical side (of this principal or law) has been found to be inadequate to explain all the varied phenomena of living organisms." Should it be found at last that the chemical side too is inadequate, then where are we? That this must *not* be found incompetent is all that remains, and evidently tinctures some current philosophy, may it be said?

But, in suggestive query, as to the tenability of conception of chemistry as biological in the sense of location in action, without qualification of the phenomena? A biological chemistry in strictness is chemistry with characteristics rendering the chemisms in reaction cognate with physiological, which is *functional* phenomena, and distinguishing these from the simpler and less complex chemistry designated inorganic. Fundamental facts in the primalism of the life processes, and in association with the secondary, which will be shown later, necessitate the recognition of the distinction here noted, but ignored if not emasculated by the author's view of the chemistry in the discussion before us. These characteristics of the biological in the designation of the chemistry, evidence these phenomena as not magisterially dominated by the law in vogue in the simpler processes, and the principle of evolution, from the simple to the complex, and from the general to the special, comes to aid in the interpretation of these chemical facts. This, however, cannot be pursued further here.

The crux of the problems as a whole is reached and attacked in "the protein as the one substance or class of substances absolutely essential for life." In the treatment of this question Professor Chittendon has done yoeman service in interest of the solvement of these physiological questions. The chemical constitution of the nutrient proteid is of first importance, and pivotal in deter-

*Science, February 14th, 1908.

mination of the possibility of its laboratory synthesis, involving as it does the projected synthesis of common foods. Of this chemical constituency of the protein the author shows a high grade of complexity. As many as "seventeen composition products" are now definable, and with much variety in relationship in different specific protein, and as the discussion shows, these are not supposed to be all of the factors going into the make-up of the protein.

It is unfortunate that the distinguished physiologist speaks of these as "building stones in the finished structure," and consequently the growth of the protein or its elaboration as a "building up." The identity of these seventeen components are ascertained as such by processes of decomposition, or "splitting off," but this in no way is a process cognate with that in their construction. One may dissect a body, part by part and limb by limb, but the body was not put together in that way or on that principle. Proteins come to their identity by constitution, which is more than a composition. Take the simplest "chemical compound," say water, it is a combination of two elements; is that fully expressed as a composition? The reactions constituting this phenomenon are not fully expressed without the term constitution over and above the composition. The protein is a "chemical compound" of great complexity, its factors are beyond chemical enumeration even yet, its elaboration is a constitution. A building up as in the use of stones may be cognate with synthesis, and so achieved, but the metaphysics of growth and protein elaboration are incompetently conceived in the use of "stones and "building up," just as the sectional anatomy in dissection is incompetent as the principle interpretive of organic growth.

It may be ventured as a probable scientific position, that the proposition to synthetize the nutrient proteid, which also is vital in the synthesis of foodstuffs, will fail of success, certainly at this stage of chemical knowledge. This is so vital a matter that it needs some further consideration. The following points are fundamental:

All the so-called "stones in the finished product" or protein are not known, which difficulty, however, may be removed by expert chemistry—a great desideratum.

The attempt to evidence elaboration of the protein as a synthesis in method is far from realization, and with dubious promise of future attainment. That this is no arbitrary building of a bar to progress, the nature of the protein, and a study of the histologic pedigree, so to say, of its elaboration will show.

The principle of evolution has and does controllingly operate in all cosmic phenomena. This points to the origin of the finished organic product, the protein, thousands of ages ago in the "spontaneous" generation of the germ life on the earth. Coming by evolution grades from the simple to the complex there were evolved the higher plants, the cereals and cognate foods, with animals of like grade. In the evolution of wheat and corn and similar cereals, the phenomena in their production became so complex and intricate that introduction and aid of micro-organic life processes in "nitrification" complicated the already complex plant physiology.* This superb product, the highest of all nutrient proteids, and the highest of all physiological elaborations, and with which the substance of the nerve cell and centers—Haeckel to the contrary, nothwithstanding —may not be compared, whose "stones" are not yet all "unearthed," is further elaborated by a complex system of grouped and cycling processes in achievement of functions, preliminary of its final destiny in the intracellular metabolism of transformation, first into the so-called living matter, and then coming into entity in structural tissues of almost infinite variety. So that the complexity in the protein is not merely as to its factors, but, and equally in the forces and processes involved.

A fundamental factor, needing scrutiny, is the psychic principle of purpose to an end, or "directivity" (Professor Church) seen markedly in organic phenomena. This quality of life processes gives them distinction as physiological or functional. This operates from the mind of the chemist himself in the reduction of the protein to the number of the cleavage products attained. But in the construction of the protein the same kind of determinative agency is veritably in operation, but *objectively* in the phenomenon of protein evolution and elaboration. In this *functions* are required, these being achieved by congeries of cycling physical processes so exact and precise as to evidence the activity of this psychic directivity.

This specific determinative factor cannot be a material entity, a part of an atom or molecule, to be identified as the "stones" in the protein may be, or to be evidenced by spectrum analysis. It must be and is of the nature of the functional and the psychic, or as the author speaks, a "physiological *power*." This essential agency is the secret

*I believe that research into the question how far back "nitrification" in plant physiology may be traced has recently been set in operation at the suggestion of the writer, a matter of importance here.

of the complex grouping of factors into congeries of directed activities in the functional, of which, as to the protein under discussion, science is probably a long way yet from the full tale.

Now, in a synthesis, besides the full complement of the stones, so-called, from whence shall this physiological-power factor or agency be drawn? Does expert chemistry as displayed in reduction or split off components of the protein offer greater promise than skill in dissection offers in promise of putting the body together again? The elaboration in constitution of nutrient protein is expressed in growth, and a synthesis must be hopelessly incompetent to achievement of so essentially an evolutional, intricate and complex phenomenon. A "law" which may account for and explain the phenomena of living things is chemical, inclusive of the physical, plus a bio-psychic factor or quality, in purpose to an end, or determinative, or "physiological power" (Chittendon).

The further discussion of the nature or more particularly the action of enzymes awakens much interest, but again challenges demurrer when it is said on page 247, "The old time distinction between ferment action and the so-called vital action of living cells no longer carries weight." The discussion and explanation given of the varieties and characters of enzyme and ferment action is not supposed to account for and explain the protoplasmic activities of the cells in their variety! No mistake must be made here for we are at the hub of the microcosm in this point.

The above position would be less assailable if the enzyme action could go on in interest of metabolism in anabolism after physiologic respiration, which is intracellular, has ceased. There is a veritable protoplasmic activity which is not synonymous with ferment action, and which is the secret of the continuance of life in the germ or seed for years, and probably centuries, a matter of importance, which the government biological officials are taking measures to ascertain, having seeds buried at various depths, and to be exhumed in ten, twenty and longer terms of years.

The enzyme reaction in the intestinal canal may wane and be rekindled in interest of anabolism, provided protoplasmic activity of the cells is still in operation, not otherwise. Then only catabolic reaction to final disintegration is possible. If only the enzyme factor and action be retained intracellularly, and none of the old time vital action, or the present-day physiologic respiration, or protoplasmic activities in their primalism, term it how one may, there will be no organic phenomenon and no problem left. The ferment action is surely secondary, and is ancillary to and in due time inclusive of and in the protoplasmic activities. Intracellular protoplasmic activity in the primal or physiologic inspiration—a metaphysic vital and actual—once ended may never be rekindled, that cell is "dead" Ferment action to disintegration may even be promoted, death reigns nevertheless. Do not nervous pathology and therapeusis indicate that the normal enzyme action may wane and even cease and be reinitiated?,, The facts in the primal protoplasmic function and actions evidence the intracellular enzyme as the product of the *primal* organic phenomena. The enzyme *factor* precedes the action. Ferment does not originate in and its reactions engage pristine living matter, there have been moves to secondary factor and secondary activity in enzyme and ferment action prior.

Enzyme or ferment action is a recursory factor and action immediately of and in catabolism, a tumbling apart of molecular structure. This is followed by further catabolism to complete disintegration and return to original elementary form, or, is followed by anabolism of structural tissue. They are, therefore, moves from the primal, and end of the primal alone is immediately causal to forever ending of the secondary, the oragnic phenomenal, in which enzyme and enzyme action are factors. Obliteration of distinction as to the use of terms may be amusing, the factors remain, they have not changed.

The hypothesis of manufacture of specific proteins in the liver or elsewhere de novo explains nothing, and is unnecessary in view of their histological evolution.

Are not the nuclear factors and processes a remove from the primal, centrifugally—from the center—as are all life or growth phenomena? And do not the but partially recognized facts that have been noted point to the direction from which may come answers to the questions arising in the closing pages of the address?

The writer's point of view may, perhaps, be seen in this article, notwithstanding its brief and disjointed presentation.

AMERICAN army surgeons have had such an honorable and conspicuous share in proving that mosquitoes disseminate disease that there is special propriety in the campaign against these insects which the War Department has just organized. In all probability civilians as well as soldiers will be benefited by the abatement at military posts of what is both a nuisance and a menace to health.

TREATMENT OF TUBERCULOSIS IN PRIVATE PRACTICE.*

M. H. FUSSELL, M. D.

PHILADELPHIA.

THE present day sanatorium treatment of tuberculosis is so satisfactory, that the principles which under lie it: Early diagnosis, rest, food and fresh air must be conceded as correct. Necessarily all of the vast number of cases of tuberculosis which are met with in all communities cannot be treated in sanatoria, on one account if on no other lack of accommodation in the sanatoria.

It is estimated by Brown has 98% of the cases of tuberculosis must be treated at home. It can therefore be seen that it is hopeless to thinking of treating even a considerable number of our patients in sanatoria. The desirability of doing it is beside the question, for these figures show it is a physical impossibility to do so. It depends upon the family physician to make the diagnosis, for with few exceptions he sees the case first.

How are we practitioners prepared for this great task?

How will we go about home treatment?

What are the results of home treatment?

I approach the answer to all these questions with the greatest degree of hesitancy. I acknowledge my own fallibility and fear the ability of my colleagues as I do my own.

Unquestionably the most important point in the treatment of tuberculosis is early diagnosis. I venture that not a single one of my readers if he be honest with himself has failed to realize when too late that the supposed case of "walking typhoid fever," "malaria," "cold," "bronchitis," etc., was in reality a case of tuberculosis, which had been mistaken for one of these ailments. There is but one possible remedy for this error. Careful examination of every case which comes under our care. No opinion should be entertained or given of the condition of a chest, unless a detailed examination be made with the chest stripped. Together with this physical examination, and as a help and check of it, must go a history of the case from the beginning, and a careful review of the symptoms, measurements of the temperature at least twice daily, a blood count, examination of the sputum if there be any and finally in doubtful cases the diagnostic use of tuberculin. It has never been harmful in my hands, but the rules laid down by Brown in Osler's system must be carried out.

In the absence of physical signs, the presence of anemia with no apparent cause, a slight daily rise in temperature, loss of appetite and of weight, if continued, must force one to a suspicion of tuberculosis.

Early diagnosis thus made is imperative if we are to have a reasonable expectation of saving our patient.

On the other hand, we must always remember the differentiation of early tuberculosis is extremely difficult. Therefore, while the early diagnosis is desirable and necessary, it is none the less imperative that we do not make a diagnosis of tuberculosis unless we are reasonably sure of it. I fear that all of the statistics of cure of tuberculosis are not reliable, because of the tendency of too rash a diagnosis on the part of those young in the art. I feel that it is almost as great an error to tell a patient he is suffering from tuberculosis, when we are not reasonably sure of our own ground, as it is to fail to make a diagnosis when rational signs and symptoms are present.

I do not agree with those who say, "well you have treated your patient properly anyhow." It is a grievous and unpardonable error to make statements of this sort to patients.

All uncertain cases, and many must remain such, should be frankly told of our uncertainty and should be treated as seems best.

None of us can afford to be dishonest with ourselves or with our patients. Do all practitioners realize that all coughs do not need a cough mixture? That all cases of loss of weight do not need a tonic? or all cases of fever a febrifuge?

I realize that patients, usually unconsciously, often misrepresent to one physician what another physician has said of his case, but of the advanced cases of tuberculosis who swarm in our dispensaries, a large enough number tell the truth whether they say that "my doctor has been giving me a tonic, has been trying to break up my cold, or has just given me this for my fever."

Physicians who practice thus are very illy prepared for the great task of curing tuberculosis in their home or out of them for that matter.

I believe that every physician who does general practice should visit some well conducted sanatorium. Take careful note of the method of handling the cases. The practical way in which the patients are kept in fresh unbreathed air night and day. How febrile cases are kept either absolutely at rest or on carefully regulated exercise. How they are fed, and how relatively few drugs they need. Last, but perhaps first in importance, how the patients are taught to destroy every particle of sputum. Then we genera l

*Read before the American Therapeutic Society, Philadelphia, May 8th, 1908.

practitioners will be fitted to cope reasonably with tuberculosis, and apply treatment at home with some hope of success.

How will we go about home treatment?

First.—Until the physician fully realizes the truth of the statements I have just made, any line of treatment will fail of success. The diagnosis being made positively or the case being doubtful enough to demand care of treatment, the patient should be told his condition. It is a great mistake to tell a patient he has a bad cold, bronchitis, etc., and then proceed to give him directions which are properly given to a tubercular case. The onerous details we put on our tubercular patients will be carried out only if they know it is a matter of life and death to themselves and perhaps to those who are nearest and dearest to them. Therefore, tell the patients they have tuberculosis; in telling them, however, hold out to them all the support and encouragement that is possible and tell them that their recovery is largely in their own hands in carrying out your orders.

How can patients get fresh air?

All houses have windows. Many houses have porches. Some houses have lots of ground. If nothing but the windows are available have the patient sleep in the room with the sash entirely out, if there is more than one window all the sash out, or put up a balcony outside the window which may contain a tent as suggested by Pratt, or have a canopy arranged according to Knopf, so that the patient is bathed in fresh air while still in the room. Do not allow the patient to stay in the living room, where the windows and doors are all shut. If a porch is available, put the bed on the porch, make it comfortable for a sitting room, also protect it from the weather, but do not build a glass house and keep all the windows shut. Better be inside the house.

If a plot of ground is available, by all means have the patient in a tent on the plot. Put the floor down and make it comfortable. Keep the sides up. In cold weather protect the patient with abundance of bed clothing or outer clothing. No one who has not slept in a tent throughout the year even in this rigorous climate of ours, can have any conception of the great comfort there is in it.

Second.—Teach patients and teach the family in which they live that fresh air, that is air which has never been breathed essential to normal life. It is of paramount importance to the tubercular individual. Teach them that a cold room is not necessarily a room containing air fit to breathe.

We have all visited rooms so cold as to be uncomfortable, and yet the air so impure that it was unfit to breathe. These sentences in the light of all that has been proven and taught in these latter years may seem trite. But a vast number of laity and sad to relate some physicians still fail to realize their truth.

Third.—Rest. I thoroughly believe we are but playing with fire when we allow patients with active tuberculosis to conduct their business, to do their home work or to engage in any regular business. Their business is to get well. It is from the financial side alone, necessary that their entire faculties be concentrated upon this end. The rest patients get their freedom from worry is, next to fresh air, the most important element of the great success of sanatorium treatment.

If the patient has fever he should be in bed in the fresh air the twenty-four hours through. Some patients appear to think that if they are not working they can go about to ball-games,, riding, etc., as much as they choose.

Nothing is farther from the truth. The undue exertion in a long walk may so outweigh the value of the fresh air that the patient is the worse for the outing.

Fourth.—Food. Good nutritious food, meat, breastuffs, fresh vegetables, eggs and milk. The great advantage of milk and eggs is not because there is any specific in these articles of food, but because so much more protied food can be taken into the body in this way than is done ordinarily.

Drugs. I believe there is no specific drug for tuberculosis. Many drugs will destroy the bacillus of tuberculosis, but there is no practical way of applying these drugs in the human economy and at the same time preserving the life of the patient. One remedy I think should be touched upon, I wish to sound a warning. There seems to be no doubt that tuberculin does good in tuberculosis when used in selected cases, in a most careful way, by men who have perfect control of their cases, who can measure the temperature, etc., at regular intervals. I want to warn the medical public however, that it is a most dangerous remedy in the hands of the uninstructed. Therefore, the mass of literature from commercial houses should not be heeded. A physician shall never treat a case with tuberculin unless he has perfectly familiarized himself with its use and has control of the patient. This is not the place to detail drug treatment, but to insist that it must be subsidiary to hygiene treatment if we cure our patients.

I have left until last that which is perhaps the most important.

Prophylaxis. If every particle of sputum of tuberculosis patients, their feces and urine were absolutely destroyed it would be a matter of relatively short time when tuberculosis

would cease to exist except as a rare disease. We practitioners must force this truth upon our patients. Having convinced them of its infallibility, how should they be instructed?

Teach them that spitoons and metal and earthware spit cups are an abomination. Teach them not to use handkerchiefs to receive sputum. Teach them to use the elegant forms of paper spit-cups or envelopes every time they expectorate. Keep them covered and free from flies and to burn them as often as they become filled or soiled. If this cannot be obtained, use ordinary toilet paper, one piece for each expectoration, when used put them in a paper bag and burn bag and all when convenient.

Always disinfect with carbolic acid, bichloride of mercury or chlororated lime, both feces and urine; let there be no exception.

Rosenberger has demonstrated the frequent presence of tubercle bacilli in stools, where there is no reason to suspect intestinal lesion How practical are these rules, and what are we to expect from home treatment of tuberculosis? When I stop to think of what has happened to all my patients with tuberculosis in private practice, 1 am appalled at the result.

Dr. Osler in his address before the Phipp's Institute a few years ago stated that we all talk too lightly of curing tuberculosis. Assuredly that is so. I have heard the statement made by men who should know, that home treatment of tuberculosis is very easy. To me it is the most difficult ask I have to undertake. Tuberculosis gets well with a doubt. Postmortem findings prove it over and over again.

Sanatorium statistics show that a large percentage of patients recover, over 60% of some of the German sanatoriums. The Adirondack Sanitarium statistics which are the most reliable, show 2348 patients in the last thirteen years, of this 628 are well, or approximately 25%. There are 417 claimed as living, which makes over 45% alive or 55 dead, so even with the excellent treatment and advice received at this place over half the patients die and only 25% are considered well. I think that any individual who promises a large percentage of cures, speaks what he hopes for rather than what he experiences.

I have records of 142 patients treated for tuberculosis of the lungs in private practice, 93 of these are dead, 22 are unknown, 9 are living and 22 are well, that is about 15½% of the cases are well. I said I was appalled at my results. When I saw that 15½% of the cases of which I have notes are about their daily duties apparently well, I smiled and thought I was appalled without reason. But when I analyze those 22 apparently recovered, I am more than ever appalled. In five of these patients or less than 4% of the whole number treated I can rightly claim a possible hand in the cure.

The rest are well. None of them went under any so-called specified treatment. Many of them got well in spite of the fact that they worked in the mill. Some of them were apparently cured cases, which under my care when well and have remained well. They are excellent examples of the tendency of tuberculosis toward cure, even in untreated cases. In other words, my treatment had nothing to do with their recovery of the chronic tuberculosis whatever it may have had to do with acute conditions. I believe that I have been as careful as most practitioners, and believe if they understood their results as will be as mine.

Now these terrible results are not the fault of the system. The theory is right and we must carry it out. They are the fault of us general practitioners.

We refuse to believe a patient has tuberculosis until those who run may read and the case is beyond hope. We prefer to beileve he has malaria or some other impossibiilty. In other words, we do not make an early diagnosis. Then there is the almost hopelessness of getting the mother or father of a family to undergo a proper treatment until they are far advanced, and cure out of the question.

We must so impress the parents when we see them early, that if they expect to have more than one chance in ten of living to help their children they must make some sort of financial arrangement to carry out the treatment for a prolonged period.

That is the vital question. We see a woman with a large family and a house to case for. We must make it financially possible for that individual to take proper treatment. We have not done our full duty until we have done this. They would rather die than see their children in want, unphilosophical as they may be.

However, the more I practice the treatment carried out by sanatoria, the more hopeful I am. It is far superior for the patient's relief and occasional cure than any other means I know to me.

We must practice it. When we have so educated ourselves that we make an early diagnosis in every case, and when we apply the system to doubtful cases; when we educate the community that it is economical to so treat patients, then the home treatment will approximate sanatorium treatment in effectiveness. And sanatorium treatment will be far in advance of its present results.

ELIMINATION OF TOXINS.

JAMES BURKE, M. D.

MANITOWOC, WIS.

THE frequently repeated small dose of the active vegetable principle in the treatment of human diseases is logical.

By it the poisonous effect of the drug is readily avoided; the medicine is given until the manifestations of toxicity by the dominant disturbing toxin are dispelled.

Relief from the disturbing toxin is thus economically procured by safely neutralizing the disturbing toxin by the use of its affinitive toxic principle from the plant source; be careful not to give of the neutralizing principle, more than is necessary to chemically satisfy the affinities of the disturbing toxin; if you do, a new, disturbing toxin is added to the treated organism; and if any therapeutic action intervenes, it is the arousing of the immunizing power of the body.

Prolonged unphysiologic conditions exhaust the ductless glands, the normal function of which constitutes the immunizing power of the body. Normal function of the adrenals is the source of production of the 94 per cent of the hemoglobin; hence, on it the oxidation of metabolism and catabolism depends, furnishing the principal carrier of oxygen through the blood current to all the cells of the body.

Opsonins are the economical product of the normal thyroid. The principal weapon of defense of the body, by the phagocytes, is trypsin, derived from the normal pancreas. In grave acute diseases and many chronic diseases, the immunizing power of the body is in abeyance. Toxins can not longer be readily disposed of by this defensive power of the body; to depend on it to dispell the bacterial invasion and its consequent disturbing toxicity, would mean slow recovery and prolonged convalescence.

What must be done to economize the patient's monetary interests and husband his physical powers?

We flippantly advise elimination of toxins, but have a hazy view of its operation in the natural course of recovery.

Toxins, as such, can not be eliminated from the living body; they are phases of the abnormal morphology of incomplete nerve waste; they have biochemical affinities for the allied and correlated active vegetable principles, and readily unite with them—single toxins with single principles—to complete the morphology, of their becoming active, normal stimulants to excretion.

This scientific benevolence of therapeutic action is abortion of commencing disease processes.

We must never consider that by purging with active vegetable principles, as jalapin, colocynth, or any combination of these principles that we are securing an active elimination of toxins; the very fact that the action is a purge, precludes any possibility of the principles entering into benevolent chemical union with the affinitive toxins, to form normal bowel incitants.

The purge is the catalyzing action on the intestinal glands, of the surplus of active, affinitive principles used; in the natural course, a certain portion of the administered principles, is neutralized by their affinitive toxins, in the blood and in the walls of the intestines; hence the more affinitive toxins in the body, the more of the vegetable principles required to purge the patient.

The griping of the purge is the biochemical worry of the intestinal nerve structures, by the purging principles, in their natural course of catalyzing their affinitive cognate elements in the said nerve structure.

The therapeutic advantage of this procedure is the emptying of the lumen of the lumen of the bowels by the chemical onslaught on the nerves of the bowels, which causes a rapid flooding, determination of blood and serum to the intestinal walls and adjacent tissues, with the resultant pathologic exosmosis of serum, leucocytes, blood salts and other nutrient elements of the blood.

Salinizing the bowels or the kidneys assists the natural processes of elimination by sluicing normal excretory products which have become arrested in transit.

In health, the immunizing power of the body converts the nitrogenous waste materials into normal excretory products, without which elimination cannot exist.

In disease, elimination of toxins, as toxins, is impossible; the toxins must be made into complete, chemical entities for excretion, by the chemical union of each toxin with its biochemical cognate, vegetable principle; or else, await the slower process of the crippled natural power, to fabricate the toxin, neutralizing principles from the abundant pabulum at hand, into neutralizers. The analytic study of the symptoms of the prevailing diseases of humanity, in connection with our present plant drug therapy, will easily teach us the correlation of the disturbing toxins in disease, and the active vegetable principles. The neutralization of the acid toxins aids in the correction of the subalkalinity of the blood; is a rational aid to elimination and thereby sure relief from all sorts of toxic disturbances.

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EDITORIAL

"Minding Your Own Business."

ONE of the most remarkable reflections on our present-day civilization is the blood-hunger of the general public as evidenced on occasion. A supposed petty thief, trying to escape, is followed not alone by the police whose business it is to apprehend him, they are joined by a mob in which all classes of society are liable to be represented; its a man hunt, and like savage beasts men enter into the hunt abandoning all sense of decency in their effort to locate the quarry. Should he be reached before the police arrive the savage in man is awake, and any rumor as to the gravity of his offense is accepted and his punishment is made most outrageously severe at the hands of those who have no real concern in the case, unless there is timely interference by those really in authority. An epileptic has a seizure on the street; as by magic a crowd gathers and but for timely intervention his life would be jeopardized by the crowding, trampling, pushing beasts who are eager that nothing gruesome escape them. The arrival of an ambulance is the signal for the assembling of a crowd which interferes with traffic and is a tremendous hindrance to those who are trying to minister to the sick or injured; the sufferer may be a timid, retiring woman who would be terrified by attracting attention even were she well, and who is tortured at this exposure to a rabble; but all this makes little if any difference to the crowd which seems to be profoundly entertained in her distress.

A recent issue of the Globe tells us that it took four policemen to drive back the curious crowd from around the wife of Dr. H. N. Lyon, who was injured by an automobile in the heart of the best residence section of the city. This was not in the "slums," and the crowd was unquestionably composed of people sufficiently intelligent that their very that their very intellience and consequent humanity should have made them aware that their presence was not desirable.

A campaign of education on the importance of "minding your own business," and keeping away from places where you have no reason for being, would be a valuable addition to the schooling of Americans, children and adults, rich and poor, male and female. The disgusting spectacle of four policemen driving back "the rabble" at Delmar and Union avenues is a reflection on our city, and our only consolation is in the fact that the occurrence was not typical of St. Louis alone, but might have happened in any other American city, in fact, does happen every day.

"Minding your own business" of no necessity means failure to give succor to those in need, but it does mean speedily absenting yourself so soon as you have ascertained that your assistance is no longer necessary. Such a propaganda could properly be preached by the medical profession; possibly a change of conduct might result within a few generations were the effort persistent and persevering.

An Appeal for a Square Deal.

IT is American to believe in justice, to demand a hearing for both sides before coming to a judgment and to withhold censure until guilt has been established. Theoretically we are the most just of people. Theory and fact are often widely divergent, and it is the history of trust building that the theory of the square deal is lost sight of in the endeavor to build up a great institution; the individual must be sacrificed for the cause, the end justifies the means.

No other agency had more to do with the successful reorganization of the American Medical Association than had the medical press; sentiment was moulded, advantages were pictured and the way prepared for its success, and the institution today is a monument to those who were instrumental in the formative time. The part played by the medical press abundantly explains its continued interest. It is a tremendously wonderful institution, the A. M. A., and one which has possibilities for good, and evil, such as we in the early days did not dream of, although we had utopian dreams of general beneficence. But with succes comes the problem of men; some men can stand power and success, some abuse both, and time alone can work their undoing. An organization

so important as this has to have leaders, and fortunate it is if the men in control have the weight not to abuse the agency which put them in power; no one familiar with the situation can find fault with the Association, but there is abundant room to question the motives of some of its officials. We welcomed the inauguration of a move which purposed a more intelligent therapy, and in so far as the Association has detected frauds and eliminated extravagant and impossible statements, we are heartily in accord with the movement; but the evident failure to draw a definite line between fraud and a question of business detail is un-American and should be condemned. To find the authorities of our great society leaving the beaten path of duty and devoting their time, which is the Association's time, to the making of attacks on the business of one or another manufacturer should arouse objection from the membership. A product may not meet with the Council's approval (passing over whether that of necessity makes it of no therapeutic value), it does not follow that all the products of the house are condemned and that its business is to be undermined and the plant wrecked. Nor does failure of approval necessarily carry with it a certainty of fraud, secrecy or therapeutic ineffectiveness. The Association journal is giving us a lot of one-sided argument and of arbitrary judgment, it is impossible to get into it anything which is not censored by a biased censor. While it would have been perfectly safe to have allowed The Abbott Alkaloidal Company to reply in its own words to the attacks made on them, and to have given them sufficient space to place the subject fully before he association, their defense was so edited by the "blue pencil" as a appear ridiculous and so abbreviated as to be useless. Why not have presented both sides if the attack was to be made? The membership is abundantly able to draw its own conclusions if given the premises in full.

Dr. Abbott's side of the controversy, which has lately appeared under the title at the head of this, rings good; it is filled with information which every member of the Association should digest thoroughly. It is indeed fortunate that the doctor happened to be able to place this defense before the profession; had he been a less aggressive man and one without resources, his would have been the fate of many who have stood in the way of the arbitrarily ambitious—the smaller oil producers can tell you all about it.

While Dr. Abbott is aggressive and full of resource, and has many warm friends, the fight is not ended and he needs the friendly co-operation of the profession quite as much as he has at any time. This is the land of justice and equity, no class of men more heartily believes in justice and equity than does the medical profession; we have great confidence that it will not knowingly stand for injustice anywhere.

Proteid Iron Preparations of the National Formulary.

We do not know how many of our readers are also readers of the "Critic and Guide," but we could wish that breezy periodical reached them all. Its editor has the scholarly mind, combined with a versatile wit, which makes the handling of abstruse topics interesting; his sermons are never without point and are never dry.

One of the more recent of these deals with a subject which we have somewhat treated in connection with the consideration of other themes, that is, the comparative worth of the National Formulary products and the worthy proprietaries in who stead they are masquerading. There are a dozen good things which we could mention with no hesitation for which the Formulary product is a rank substitute and what Dr. Robinson says of pepto-mangan and its imitation could be said with equal truth and point of any one of them. He quotes from the recent findings of Prof. W. H. Harrison, of the Northwestern University School of Pharmacy, as reported in a paper read before the Chicago Branch of the American Pharmacutical Association, but we do not need Prof. Harison's expert evidence, we have bought and declined to buy these products in the open market and we know how filthy they may be, and are in some instances, and we know how lacking in uniformity they are. We can wish no worse thing for some of those who are active in the campaign for the recognition of substitution than that they be forced to take a few doses from some of the bottles we have seen and smelled! Pepto-Mangan we have known for years and we have always found it sweet, uniform and serviceable; can any one give us a rational reason why we should not use it? Or a rational reason for employing in its stead the rank substitutes which are offered? We must confess that we are of Dr. Robinson's mind in being unable to comprehend this furor for substitution which seems to have taken possession of many of our fellows, this phobia of proprietaries.

Are we to believe that honesty is not quite as liable to be found among proprietary manufacturers as in the high councils of the A. M. A.? Are we to discard the evidence of years of faithful work in practice, where

our one effort has been to cure disease and relieve suffering, where we have sought studiously to use the very best, are we to decide that those remedies which have done us good service have not done for us what we credited them with? It is a sorry time for the public when the profession really discovers that the agents it has been so systematically employing have never been dependable; it is to be hoped that the public will never find it out if such a thing really happens for vaunted American Medicine will fall into greater disrepute than our most hated enemy has ever hoped for that day.

Personally we find much that is good among the proprietaries; much that is so vastly superior to the Formulary substitute that we have no inclination to shift allegiance. Certainly we do get results with pepto-mangan; it is most agreeable to patients, they like it and see that it benefits them; we would expect them to change physicians did we prescribe some of the liquor ferri peptonati cum mangano (N. F.) which we have seen!

We find it possible to administer arsenauro effectively where liquor auri et arseni bromidi (N. F.) is absolutely rejected.

It took but a few trials at the substitution of liquor cresolis comp. (N. F.) to convince us that in some respects it is not "practically identical with lysol" as represented.

Acetanilide appears in the Formulary in more than one combination; we have been unable to discover that the Formulary products are any less dangerous than those outside; acetanilide is acetanilide and the Formulary is not at all inaccessible to the laity; we have already seen one copy of the A. M. A. Manual of the Pharmacopeia and Formulary in the hands of a layman who is a chronic medicine taker and he had become quite familiar with it!

And where is all this foolishness to lead us? The situation would be absolutely funny were there not a very serious side to it. It is funny to seen men, otherwise great, led by the nose by their inferiors, but only funny until the pathetic side reaches you.

When the St. Louis Medical Society was considering the adoption of a by-law making connection with a medical journal which published advertisements of products not on the "approved list," to constitute "gross misconduct," an amendment was sprung making it equally sinful to use these products in practice!

How quickly the saints began to squirm! More than one vigorously expressed himself as opposed to therapeutic dictation; he would use what he pleased; yet he would dictate to the journal and make its editor an irregular! Consistency is indeed a jewel!

The Problems of Prohibition.

It is questionable if the mass of the profession appreciates the great honor which has been paid it by the different states which have enacted some form of a prohibition law. It is somewhat surprising that such radical legislation was not made to include a clause limiting the liberty of physicians to prescribe malt and spirituous liquors, but those behind the movement have shown gratifying confidence in the medical profession and an opportunity is given to demonstrate that the confidence is not misplaced. The condition is an experiment, but it is to be hoped that every physician residing in those districts affected will feel that the honor of the American profession is in his keeping, we could ask nothing better for American medicine than that no doctor would be found lending his assistance to an effort to defeat the purposes of these laws.

The prohibition movement brings to us many problems and much food for thought; those who compare the movement with the conditions in Mohammedan countries and predict that all manner of evils will result, that the filth, polygamy and what-not of Arabia are to be ours are not logical in their deductions, an Anglo-Saxon will never be an Arab, his methods of thought and life are essentially different and never will be similar, such talk is not argument worthy of attention. To us it appears that the problem is really one of the saloon; had not the saloon misused its liberties and abused its place in the community there would never have been this movement. Granting, as we are not quite ready to do, that alcoholic drinks are really a necessity to any healthy man, it seems beyond reason that any physician would seriously defend the saloon. Physicians who have enjoyed a time of urban practice know the saloon; it is an institution which is sometimes conducted by an intelligent man and one with decent sentiments, one who makes it very nearly unobjectionable; but where there is one decent saloon there are a multitude of saloons for the existence of which it is a marvel that a civilized community stands. We all know many men who are making good living wages, abundantly sufficient to support their families, whose children should be in school and whose wives should not have to assume the responsibility for the welfare of their families, but men who can never pay a reasona-

ble bill for their medical attendance because the major portion of their earnings goes regularlarly to the saloon and whose credit is worse than worthless at any other place; no wonder their boys are selling papers, their girls in the shop and their wives over the wash-tub; the drinks are the one essential of their lives and the saloon has but one object and that is to get the price of as many drinks out of the pay envlope of these men as is possible.

In the effort to eliminate the saloon it is but natural that excesses occur, the movement is radical and in the hands of radicals; and hardships result, but not such hardships as are a daily consequence of the grog shop in the slum district. We have to recognize the fact that we must assume a responsibility for our weaker brother, we are our brother's keeper, whether we like it or not, and we have to submit to some personal inconvenience as a result of the fact. Absolute prohibition means something of hardship, but any talk that prohibition cannot be absolute carries with it the expectation that the law will not be enforced and even reckless intemperance is not so bad for a community as disregard of law. It is time for thinking people to cease talking that "the law can never be enforced;" if it is law it must be enforced if we are not to have anarchy.

The building of a habit takes time, the man who is habituated to the use of malt or alcoholic liquors feels them essential to his well-being, even though he has used them moderately. The man who has never used them does not miss them. Physiologists and statisticians are authority that he is markedly the better off of the two; the physiologist tells us that alcohol, even in small quantities, does a work of inhibition which unfits the brain for sensitive work—the greater the quantity the greater the effect. Statisticians show us that the death rate among even moderate users is very considerably higher than among abstainers;. Why ignore these facts in considering the subject? Why hail as a beneficent agent the one agency that seems to be more associated with crime and misery than any other? It is easy to undo an experiment if it is found to be a failure and the medical profession owes it to itself and to the country to lend it every aid to making the experiment legitimate in its every line.

In prescribing eye-drops, order a dropper to be placed in the bottle in place of a cork, as a stopper. It will always be at hand and always clean, and the solution will not be contaminated.—Amer. Jour. of Surg.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

International Clincis. A Quarterly of Illustrated Lectures and especially prepared Original Articles on Treatment, Medicine, Surgery, Neurology, etc. By leading members of the professlon throughout the world. Edited by W. T. Longcope. Vol. I, Eighteenth Series, 1908. Philadelphia and London: J. B. Lippincott Co.

Under the caption treatment is an instructive contribution of 30 pages, entitled "The Sanatorium," by Lawrason Brown. This article includes the history, construction, life and things in general concerning the sanitorium, together with a number of photographic illustrations and diagrams of the Adirondack Cottage Sanitarium. The article by Jean Dardel on "Injection of Soluble mercurial Salts in Syphilis" is practical in its entirety while the writings of Thomas Boggs and Dingwall Fordyce discussing respectively "Clinical Aspects of Blood Coagulation" and "The Value of the Opsonic Test for Diagnosis" are well abreast the times. The section in medicine embraces an up-to-date discussion of the "Paratyphoid Fevers" by James Wilson; "Urinary Acidity with Special Reference to Gastric Acidity," by A. L. Benedict; "Textural Proclivities and Immunity" by Sir Dyce Duckworth; "Mucous Colitis," by David Sommerville, and the "Normal Temperature of the Body" by R. D. Rudolf. Perhaps the most noteworthy article in the surgical section is that of John Deaver, who elaborates extensively on Diseases of the Gall Bladder. The remaining articles of this section, written respectively by Benjamin Tilton, Garland Sherrill and Louis Frank, are expressions of good judgment and the reader will be adequately compensated for the time spent in reading. Gynecology is represented by Jules Thiroloix who writes on "Fixation Abscesses;" Henry Tuley, "The Care of the New Born," and Lewis McMurtry "Surgical Treatment of Fibroid Tumors of the Uterus." George Walton details his experience with "Fracture of the Spine," while the section on pathology contains two good articles written respectively by Lawrence Flick and William Deaderick. The feature of this volume, however, is a resumé of the medical progress during the year 1907. Identified with this section are such eminent writers as A. A. Stevens, who reviews treatment, David Edsall and Verner Nisbett, Medicine, and Joseph Bloodgood, surgery.

SAUNDERS' NEW BOOKS.—Messrs. W. B. Saunders Company, medical publishers of Philadelphia and London, announce a list of books just issued of unusual interest to the

profession. We especially call the attention of our readers of the following:

Bandler's Medical Gynecology—treating exclusively of the medical side of this subject.

Bonney's Tuberculosis.

Volume II, Kelly and Noble's Gynecology and Abdominal Surgery.

Volume IV, Keen's Surgery.

Gant's Constipation and Intestinal Obstruction.

Schamberg's Diseases of the Skin and the Eruptive Fevers.

John C. DaCosta, Jr.'s Physical Diagnosis.

Todd's Clinical Diagnosis.

Camac's Epoch-Making Contributions in Medicine and Surgery.

All these works are profusely illustrated with original pictures.

SURGICAL SUGGESTIONS

DISEASES OF THE EYE.

(American Journal of Surgery.)

Test the vision carefully in every case of ocular injury, even if it is apparently nothing but a "black eye."

Recurrent attacks of inflamed lids, conjunctivitis, or corneal ulcer in one eye, suggest an infected lacrimal sac. Pressure over the inner canthus will generally cause mucopus to present in the puncta.

When a grey or blue eye turns brown and loses sight, after an injury, one may be almost sure of a chip of steel or iron in the globe, that is slowly rusting (siderosis).

Avoid bichlorid solutions in eye work, as much as possible. After cocain has been used, they may cause a permanent opacity of the cornea.

A large dose of antipyrin or quinine will clear up a frontal headache due to acute catarrh of an accessory sinus, by its astringent action on mucous membrane and consequent improvement of drainage.

A large pupil in an aged patient is a danger signal, suggesting glaucoma with insidious onset.

After using a mydriatic in an adult, instill pilocarpin 1 per cent, and keep the patient under observation until the pupil contracts.

After iridectomy for glaucoma the pupil of the sound eye should be kept contracted by pilocarpin for at least a week, but not bandaged, as it should be open to frequent inspection.

MEDICAL PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

GENITO-URINARY.

T. A. HOPKINS, M. D.

A Rapid Clinical Method of Determining the Ammonia Coefficient in Urine.—E. Guy Hopkins (Bul., Univ. Col. of Med., Richmond, Va ,July,1908) gives the following very clear description of the method he employs in determining the ammonia coefficient in urine:

The determination of the ratio between the ammonia nitrogen and the total nitrogen in the urine has recently become of considerable interest from the evidence it affords of intoxication by organic acids. This ratio is designated the ammonia coefficient. Normally it is 1-50 to 1-20. In pathological conditions such as toxemia of pregnancy, diabetes mellitus, and degenerations of the liver, one-fourth is not unusual.

To meet the need of a rapid method for determining this ratio, adapted to the routine of the clinical laboratory, the Nessler method, as used in sewerage analysis, was tried in our laboratory and apparently fulfills the requirements. This method depends on the formation of a colored compound by a reaction between ammonia and mercuric poassium iodid in alkaline solution. The reaction is

$$2(HgI_2 2KI)+NH_3+3KOH=NHg_2 1.H_2O \\ +7KI+2H_2O$$

The ammonia mercuric iodide so formed tinges the solution with shades varying from pale yellow to brown depending on the amount of ammonia present. The depth of the color is proportioned to the amount of the ammonia present, so that by comparison with solutions containing known amounts of ammonia the amount of ammonia present in a given solution may be determined. The solutions required for making the determination are Nessler's reagent (1), ammonia free water (2), and a solution of ammonia chloride re-

(1) Nessler's Reagent (Mr. D. D. Jackson, Technology, Quart., Dec., 1908)—"Dissolve 61.75 grams of potassium iodide in 250 c. c. of re-distilled water, and add a cold solution of mercuric chloride which has been saturated by boilng with an excess of the salt. Pour in the mercury solution cautiously, and add just enough to make the color a permanent bright red. It will take a little over 400 c c. of the mercuric chloride solution to reach this point. Dissolve the red precipitate by adding exactly .75 gram of potassium iodide; then add 150 grams of potassium hydrate dissolved in 250 c.c. of water. Make up to one liter."

(2) Ammonia free water.—Acidulate filtered water slightly with sulphuric acid and distill. The first 50 c.c. should be rejected, the next 50 c.c. should be tested with the Nessler reagent. If no color appears the distillate is ammonia-free, and the operation may be continued until the contents of the retort are reduced to a very small volume. It is well to prepare a goodly supply and keep it on hand in glass stoppered bottles. (Harrington's Hygiene, p. 396.)

presenting 1 mgr. of nitrogen per c.c. (3) for making the comparison standard. The only special apparatus necessary is a set of long tubes of clear glass called Nessler tubes, all of a set being the same height and diameter and having a mark at the 50 c.c. point between 20 and 22 cm. from the bottom of the tube. Two sets will be found more convenient, one set of two dozen 30 x 17. cm. with a 50 c.c. mark as above described for Nesslerization, and one set of a dozen larger ones with a 100 c.c. mark for making dilutions.

The comparison standards are made by adding definite amounts of a 1-100 dilution of the ammonium chloride solution representing 1 mgr. of nitrogen per c.c. to a series of 10 Nessler tubes filing to the 50 c.c. point with ammonia free water and adding to each tube 2 c.c. of the Nessler reagent.

The following series used in water analysis will be found satisfactory:

Amount of Nitrogen as Ammonia Represented. Grams.	Amount of 1—100 Dilution Ammonium Chloride Solution. C. C.
.000000	0.0
.000001	0.1
.000003	0.3
.000005	0.5
.000007	0.7
.000010	1.0
.000014	1.4
.000017	1.7
.000020	2.0
.000025	2.5

These standards should be made fresh for each day's work; but it is well to keep the tubes premanently labeled with the amounts of ammonia nirogen respectively represented.

In determining the ammonia coefficient for clinical purposes, it is necessary to have a sample of the 24 hours urine free from ammoniacal fermentation. Freedom from such fermentation is procured by adding an ounce of chloroform to the bottle in which the urine is to be collected previous to beginning the collection, and corking and shaking it after each addition of the urine.

The ammonia nitrogen is determined by diluting one c.c. of the urine with ammonia free water until the amount of nitrogen in a conveniently measured fraction of the dilution lies within the limits represented by the comparison tubes. A definite fraction of this dilution is then put in a Nessler tube, the tube filled to the 50 c.c. mark with ammonia free water and 2 c.c. of the Nesssler reagent added.

After 10 minutes the color produced is compared with the standards. This should be done by looking vertically down through them at a white surface placed at an angle in front of a window.

(3) Standard Ammonium Chloride Solution.—Dissolve 3.82 grams of ammonium chloride in one liter of distilled water. Each c.c. represents 1 m gr. of nitrogen. (Standard Methods of Water Analysis, p. 32.)

The amount of nitrogen indicated by the label on the standard tube which it matches indicates the amount of nitrogen referable to ammonia in the Nesslerized tube.

From the amount of ammonia nitrogen in this fraction of the diluted urine which corresponds to the same fraction of a cubic centimeter of undiluted urine, the ammonia nitrogen in one c.c. of urine is calculated.

In practice, with fairly normal urine a dilution of 1-1000 usually gives the best results. One c.c. the urine, accurately measured in a volumetric pipette, is put in a 100 c.c. Nessler tube and diluted to the 100 c.c. mark with ammonia free water. The mouth of the tube is covered with a little sheet of tinfoil. This is supported by the palm and the tube inverted to mix the fluids. One c.c. of this dilution, corresponding to 1-100 c. c. of undiluted urine, is then put in a 50 c.c. Nessler tube and "nesslerized" as above.

If the color is darker than the darkest standard, or a cloud occurs, 10 c.c. of the 1-100 dilution is put in another 100 c.c. Nessler tube and diluted to the 100 c.c. mark, inverted over another sheet of tinfoil, and 5 c.c. of this dilution, corresponding to 1-200 c.c. of undiluted urine is nesslerized. The amount of nitrogen indicated by the standard must then be multiplied by 100 in the first case and 200 in the second case, to give the amount of ammonia nitrogen in 1 c.c. of urine.

In determining the total nitrogen the organic nitrogen in 5 c.c. of urine is first converted into ammonium sulphate by boiling with 15 c.c. of sulphuric acid and .2 grm. of copper sulphate in a Kjeldahl flask. The mixture first turns black; but in a little time becomes transparent and of a greenish tinge. The boiling should be continued for an hour after the clearing occurs. At this time all the nitrogen had been converted in ammonia. The acid digestate is then cooled and made up to 500 c.c. with ammonia free water and mixed. This corresponds to a 1-100 dilution of the urine.

Ten c.c. of this dilution, corresponding to 1-10 of a c.c. of undiluted urine, is measured off into a 100 c.c. Nessler tube, diluted to the 100 c.c. mark and inverted over a sheet of tinfoil as in diluting the urine for ammonia determination. Two c.c. of a purified 25% sodium hydrate solution (4) is then added. A slight flocculent precipitate will settle toward the bottom. Ten and two-tenths

(4) Purified 25 per cent Sodium Hydrate Solution.—Dissolve in a liter of distilled water, 250 grams of fused white stick caustic soda; heat to boiling and add a strong solution of potassium permanganate; drop by drop until a pale green color persists; continue to boil to expel ammonia and to cause precipitation of manganic oxide. The turbid solution is then allowed to stand until the precipitate subsides. (Kimberley & Roberts Journal of Infectious Diseases, Sup. 2, Feb., 1906.)

c.c. of the clear supernatant fluid is measured off into another tube, diluted to the 100 c.c. mark, and mixed by inverting over another sheet of tinfoil. This corresponds to a 1-10,000 dilution of the urine. Five or ten c.c of this dilution, corresponding to 1-2,000 or 1-1,000 c.c. of undiluted urine respectively, is then nesslerized as in the test for ammonia nitrogen, and the total organic nitrogen in each c.c. of urine determined in the same manner. For instance, if 5 c.c. of the 1-10,000 dilution is nesslerized, this corresponds to 1-2000, c.c. of the undiluted urine and the total nitrogen in 1 cc.. of urine is 2000 times the amount in the nesslerized tube.

The ratio between the amount of ammonia nitrogen and the total nitrogen thus determined is the ammonia coefficient.

The total amount of ammonia nitrogen and total nitrogen may be approximated by multiplying the amount of each in 1 c.c. respectively by the number of c.c. in the 24 hours urine.

As compared with the Schlösing method for estimating ammonia, and titrating the distillate from the Kjeldahl digestate for the total nitrogen, there is a possible error of 10% in the Nessler method. This method is therefore limited in its application to clinical use in determining pathological variations of the ammonia ratio.

For this purpose its advantages are obvious. The technique and apparatus necessary are comparatively simple. The ammonia determination, which by other methods is most troublesome and time-consuming, is direct and rapid, requiring about 2 minutes. The amount of ammonia and total nitrogen are estimated directly in terms of nitrogen. The whole determination, including the Kjeldahl digestion, requires less than two hours. The accuracy of the method falls well within the limits neccessary to determine variations of clinical importance. The practical value of the determination lies in the indication it gives of dangerous degrees of acidosis. Williams considers a persistent ratio of more than 1-10 in a pregnant woman a strong indication for surgical intervention to prevent death from toxemia. In diabetes, it furnishes a much more accurate guide for alkali treatment than the usual tests for acetone and diacetic acid, and is also of prognostic value, since a persistent ratio of more than 1-5 probably foretells impending coma.

. Yellow salve soon turns brown on exposure to light, if made with lard as a base. Cold cream or lanolin makes a good base. Keep in a porcelain jar with a screw top.—Amer. Jour. of Surg.

SURGERY.

Chronic Pancreatitis.—Dr. J. B. Deaver, Philadelphia (Jour. A. M. A.) first remarking on the comparatively recent development of pancreatic surgery, says that for the purpose of the surgeon it is sufficient to state that the most frequent form is the interlobular, and that it is this with which we have to deal in the pancreatitis complicating disease of the billiary passages, The interacinar form is due to systemic conditions not yet understood, and is correspondingly less amenable to direct or local attack. The most frequent cause is doubtless some obstruction to the free discharge of the pancreatic secretion, accompanied or not with an ascending infection. Either factor alone is enough to produce it. Infection alone will account for those cases of chronic pancreatitis following long-standing gastroduodnal catarrh, and it happens that most of Deaver's cases were, contrary to the usual rule, in patients in whom no gallstones were found, though in almost every case evidence of infection was found. Many other cause of chronic pancreatitis have been claimed, cardiorenal disease, tuberculosis, syphilis, etc., and Deaver thinks that microscopic examination would reveal many cases of beginning change in normal appearing organs. Though a somewhat definite syndrome has been established, he can not agree with Mayo Robson that the disorder is easy to diagnosticate. Most cases still go unrecognized till revealed by operation or autopsy. The local symptoms are not very significant and may be practically absent, the examination of the feces is sometimes inconclusive and sometimes demands skill not always easy to command. The symptoms depending on the derangements of metabolism, due to interference with the internal secretia of the pancreas are most distinctive. Diabetes is often too late a symptom to be of practical value, but Deaver regards the Cammidge reaction as of value in many cases, and in the hands of skilled laboratory workers, as a fairly constant sign of pancreatic disease. He thinks, if sufficient care is taken, that most cases can be diagnosed with a fair amount of certainty. The history must be carefully taken and the study of the urine and feces made by an expert. Medical treatment is generally futile, but by surgery we can in many cases remove the underlying cause, overcome the infection, and bring about complete recovery. When secondary to gallstone disease, removal of the calculi, and free drainage will, in most cases, lead to a complete subsidence of pancreatic symptoms. When the gall ducts are found clear, and the usual infection has subsided, drain-

age of the organ by way of the biliary passages nevertheless exerts a remarkable curative effect on the lesion, especially when the diagnosis and operation are made early, before the so-called catarrhal pancreatitis has really become a chronic interstitial interacinar lesion. The choice of operation lies between simple drainage of the biliary ducts or a cholecystenterostomy. In gallstone cases Deaver considers the drainage indicated by the biliary condition to be sufficient, choosing choledochostomy or cholecstostomy according to the special indications of the case. Cholecystenerostomy is indicated when the pancreatic condition is well advanced and premanent draniage is desired. It is not his choice when there is much biliary infection, he then prefers surface drainage. The operation is also severer than ordinary cholecysostomy and its mortality is higher, especially when we are dealing with a gall bladder not well suited for the operation. The indications for surgical interference in chronic pancreatitis, Deaver considers are found in the diagnosis itself, unless some circumstance forbids. Thus he would not operate in the presence of marked organic disease of other organs, or be likely to advise operation on patients in extremis. Moderate anemia and glycosuria are not contradistinction, as both are often greatly benefited when normal metabolism is restored. His experience in the surgery of chronic pancreatitis has been such as to encourage further operative work in this direction. Improvement in results will follow earlier diagnosis.

Tetanus; with a Report of a Case Treated with Intraspinal Injections of Magnesium Sulphate.—Dr. W. H. Powers, of Ocala, Fla. (Med. Record), describes the treatment of tetanus by intrapsinal injections of magnesium sulphate and gives an illustrative case. The treatment of tetanus demands opiates and antitoxins. Antitoxin was used and two injections of magnesium sulphate were made into the spinal canal. The result was a paralysis of the muscles causing rest that could not be accomplished in any other way, while the antitoixn was given a chance to act. The result was recovery.

The Esophagoscope as a Diagnostic and Therapeutic Aid in Esophageal Obstruction, with Report of Cases.—Dr. Jesse S. Meyer, of St. Louis, Mo., (Med. Record., Aug. 1) says that dysphagia is the first symptom of esophageal obstruction. It is important to be able to exclude carcinoma in order that operative interference when necessary should be done early. A diagnosis from symptoms alone is difficult. The most brilliant results from the use of the esophagoscope arise in the removal of foreign bodies, which can be located by sight and removed through the tube in most cases. The instrument is introduced with the bougie, and great care must be taken not to encounter the object before the bougie is removed, since it would then be driven further into the tissues. The author gives seven illustrative cases. The instrument is introduced with the patient siting supported, and the head thrown as far back as possible. The larynx and pharynx are cocainized beforehand and the introduction is comparatively easy. Two great obstacles in the way of introduction are a rigid cervical spine and a very large cricoid cartilage.

Special Technique without the Use of Antiseptics, with Report of Forty one Consecutive Successful Abdominal Operations.—Dr. William H. Dukeman, of Los Angeles, Cal. (Med. Record, Aug. 1.), says that the first principle in surgical technique is cleanliness, not antiseptics. He gives the results of forty-one consecutive cases of abdominal operations done by hmiself with only one death, in which the technique based on cleanliness was followed. He describes the methods of sterilization of the patient, the surgeon and assistants, and the instruments, no antiseptics of any kind being used. Also the method of preparation of the patient before operation and the careful watch after the operation, every means being used to lessen shock. The nurses use rubber gloves because their hands are always septic from handling septic materials, but the surgeon never uses them. The operations included four hysterectomies, fifteen abdominal sections, two herniotomies, and twenty appendectomies, two conditions occuring in the same patient in some cases. The single death occurred from pulmonary hemorrhage five months after operation.

Hemorrhage Into the Ventricles.—Ten cases bearing on the question of the correctness of the assertion of Dejerine, Strümpell, Brissaud and Leube, that convulsions and rigidity in apoplectic hemiplegia point to the rupture of the hemorrhage into the ventricles, and also on the possibility of stimulation of the axons of the upper motor neurons when they are separated from their perikaryons, are reported by Dr. A. R. Allen, Philadelphia (Jour. A. M. A., July 18), who summarizes his conclusi ons substantially as follows: 1. Ventricular inundation in cerebral hemorrhage has no etiologic bearing on the convulsions or rigidity. 2. Tentatively, and basing his opinion on the ten cases, he concludes that the convulsions and rigidity in apoplectiform hemiplegia are frequently due to involvement of the optic thalamus or corti-

cothalamic sensory fibers, provided, of course, that enough of the posterior limb of the internal capsule remained intact to convey the motor impulses. 3. Convulsions and rigidity in apoplectiform hemiplegia may be caused by a sudden or rapid increase of intracranial pressure from cerebral hemorrhage, even if the thalamus and corticothalamic sensory fibers are uninvolved. In this case, also, there must be a sufficient portion of the internal capsule left uninjured to convey the motor impulses to the parts concerned. It is altogether unlikely that pressure or chemical change acting on the motor axons of the centrum or internal capsule—these axons having been severed from their perikaryons by the hemorrhage—could exerts a sufficient simulating action to cause convulsions or rigidity.

Pancreatitis and Gallstone Disease.—The close relations of disease of the pancreas with gallstone disease are pointed out by Dr. W. J. Mayo (Jour. A. M. A.). In December, 1907, the Mayos, in reviewing their operative experience in the surgery of the upper abdoment, found that in 2,200 operations on the gall bladder and biliary passages the pancreas was coincidently involved 141 times, 6.1 per cent. As the total of all pancreatic diseases operated on was only 168, the fact was developed that 81 per cent were due to or accompanied by gall stones. He describes the anatomic conditions and the development of the pancreas, showing that in 62 per cent of human subjects the terminal third of the common bile duct is imbedded in pancreatic tissue, hence, in that proportion of cases, structural change in that portion of the pancreas will interfere with the liver excretion, while a stone in the terminal portion of the common duct, or infection caused by stone in any part of the bile tract, exposes the duct of Wirsung, and through it the pancreas, to infection. In this unfortunate association of terminal facilities the larger percentage of known diseases of the pancreas have their etiology (Opie). The "triangle of pancreatic inflammation" is that part of the head of the pancreas which lies between the duodenum on the right and the ducts of Santorini and of Wirsung below. There is evidence that catarrhal jaundice, especially the epidemic form, is probably due to pancreatic disturbance, and is similar to like inflammation of the parotid gland in mumps. Acute pancreatitis is mentioned; its most interesting feature is fat necrosis, which Mayo thinks is probably the result of pancreatic juice which has become activated by associated ferments, either from the bile or the duodenal mucosa, rather than to the normal secretion. In resections of the stomach the Mayos have lacerated the surface of the pancreas many times, but never saw fat necrosis follow. They think that there is an an exaggerated notion as to its fatality; our knowledge of the condition has heretofore come largely from the morgue, hence the condition has seemed a very fatal one. The greatest inerest in connection with gallstone disease concerns the chronic forms of interstitial pancreatitis, of which mild infection and interference with drainage appear to be the main etiologic factors. There are two forms, the interlobular and the interacinar, the former being fortunately the most commonly associated with gallstone disease. In the interacinar form, the pancreas feels smooth and tough, instead of rough and nodular as in the other form, and is apt to be associated with glycosuria, owing to the involvement of the islands of Lanserhans. The interlobular type, however, may progress sometimes till these are involved and a secondary diabetes occurs. Chronic interstitial pancreatitis may last for years without symptoms to differentiate it from the original disease, but if its possibility is borne in mind and careful search reveals pancreatic changes, an early resort to surgery is indicated. Jaundice is one of the chief symptoms and may last for years. The emaciation is extreme and the pigmentation more marked than with the ordinary uncomplicated common duct stones. A history of gallstones can usually be obtained, and in thin patients the enlarged pancreas can sometimes be felt as a hard mass across the upper abdomen. Careful examination of the stools should be made; large, light-colored, greasy stools, without jaundice, are indicative of pancreatitis. Cammidge's crystals in the urine are also mentioned as of probable diagnostic value. The Mayos have not found that chronic pancreatitis greatly influences the prognosis after gallstone operations, although there is a much greater tendency to hemorrhage when it exists. The necessity of clearing out all the calculi from the common duct can not be too strongly emphasized, and they never feel satisfied till assured that none have escaped detection. After clearing out the stones, a large malleable probe should be passed through the common duct to secure good dilatation. Robson has shown that free drainage for the bile is essential and generally suffices for a cure. Cholecystostomy and preferably cholecystenterostomy are the in dicated procedures. In Mayo's experience, removal of stones in the common duct, with temporary external drainage, has given a symptomatic cure. When no stones are found in the common duct or gall bladder, other things being equal, they prefer chole-

cystduodenostomy, and out of twenty-four cholecystenterostomies nine were performed for this cause. Mayo accounts for the lesser number of cases of pancreatitis with gallstone disease observed by him than by Robson by his counting only the cases in which the diagnosis was plain.

Unrecognized Fractures of the Hip.—Dr. A. Soiland, Los Angeles, Cal. (Jour. A.M. A.), reports three cases of unrecognized impacted fractures of the neck of the femur, one of them complicated by dislocation, which was reduced without disturbing the impaction. All were revealed by the Roentgen ray. He thinks such cases occur more frequently than is suspected, the shortening being so slight that it is not detected, and the injury is diagnosed as confined to the soft parts He concludes, therefore, that it is not always safe to pass an opinion lightly on what appears to be a minor injury of the hip joint, especially when found in middle life or later. Examination under anesthesia can not always be depended on, and if sufficient force is used to produce crepitus, the results may be disastrous to the patient. The best way to determine the extent of the injury, and to remove all doubt in such cases is to make a Roentgen diagnosis, which is possible almost everywhere.

Fracture of the Tip of the Olecranon Process.—Dr. Frank E. Peckham, of Providence, R. I. (Med. Record, April 18), believes that in treating any fracture we should make an X-ray picture of the injury and then secure the best adaptation of the broken bones, to one another, rather than treat the injury on a routine basis. In some cases the deformity is increased by putting up the fracture according to some prearranged method. The author describes as an instance of this the fractures of the olecranon process. In some of these a splint that keeps the arm in extension, in others one that keeps it flexed at an angle will give the best adaptation of the fragments.

General Anesthesia.—Dr. O. J. Cunningham, Kansas City, Mo. (Jour. A. M. A.,) says that he has devised an apparatus for the administration of nitrous oxid and oxygen with the ether sequence, which embodies a number of new principles, and the superiority of which has been practically demonstrated in 92 operations during the past year. The advantages claimed are: If necessary, oxygen can be given pure or mixed at any time during the anesthesia or afterward to bring about a quick resuscitation. A few breaths of oxygen will completely relieve the occasional laryngeal spasm of incomplete anesthesia without decreasing the amount of ether being used. A special feature is that the gases and ether vapor are accurately measured under all conditions, allowing a perfectly even administration and thus adding to the safety of the patient and the convenience of the oprator. By mixing oxygen in the proper proportions with nitrous oxid, complete narcosis can be maintained indefinitely and is used sufficiently long (from three to five minutes, occasionally longer) to permit ether to be administered gradually and slowly until complete ether narcosis is established. The swallowing of the ether-laden hypersecreted mouth secretions is thus avoided, with its consequent nausea and vomiting. The danger of aspiration pneumonia is also thus lessened. The reduction of body heat by the ether, which is liable to occur under the ordinary methods, even in a warm atmosphere, is avoided by the combined employment of three methods: 1. The ether chamber is in a bath of 22 ounces of water, at about 90 F., a little below the boiling point of ether. 2. Ether, and the corresponding refrigeration, is saved by the quick induction of complete narcosis by nitrous oxid and oxygen. Only the inhalation passes over the ether and not both inhalation and exhalation, as is the usual rule. This saves half the ether ordinarily used and also reduces refrigeration. Rebreathing, with its decreased oxygenation and increased carbonic acid is practically impossible with this apparatus. The apparatus complete (exclusive of the gas cylinders) weighs 20 pounds and can be carried in a case smaller than the usual suit case. The expense of anesthesia by his mehod is not excessive, and there are practically, he claims, no uncomfortable after-effects.

Malunion of Bones.—There is too much neglect by surgeons of the diagnostic use of the X-ray, according to Dr. Carl Beck, New York (Jour. A.M. A.), who says that he has had occcasion to observe many cases since the Roentgen era of malunion of bones, most of which had been treated by surgeons of repute, some of them leading men, who would certainly have been able to avoid malunion had they made use of the ray before it was too late. He suggests the following axioms to guide the treatment of bone injuries: 1. No bone injury should be treated unless at least one reliable skiagram is taken. 2. The X-ray, together with the usual methods of examinaion, determines the character of a suspected bone injury. 3. If there is no bone injury the usual treatment is massage, followed by temporary immobilization, a movable splint (plaster-of-Paris) being recommended. 4. If there is fissure or fracture

without displacement, manipulation must be avoided and immobiliazion in the most ccmfortable position be secured. After two or three weeks the dressing can be removed and massage begun. For this a temporary plaster-of-Paris splint, that can be removed and replaced by the patient himself, is advised. If displacement is found, the fracture must be regarded as an imporant injury and reduction be tried at once. This can be done under control of the screen, on a translucent table, a plaster-of-Paris dressing being applied as soon as reposition is complete. If possible, however, a skiagram should be made before reduction is attempted under the guidance of the fluoroscope. Another method is to take two plates in different positions, which will guide the surgeon in reposition. When he thinks he has succeeded, a plaster-of-Paris dressing, padded with cotton at its ends only, is applied and an X-ray picture taken through it to see if it is correct. If not the dressing should be removed and another attempt made. If difficulty is met with in reposition, and the skiagram will usually foretell this, anesthesia should be used. 6. No surgeon can say positively whether he will be able to reduce a fractured fragment or not. He should, therefore, be careful in making promises to his patient; there are conditions in which, on account of entanglement of the fragments, extensive splintering, etc., reposition, even under anesthesia, is impossible. The safest of all sutures for bone is aluminum bronze wire, which is strong, soft and flexible and will stand any amount of force required. Beck lays many of the failures of good operators to timid manipulations due to the knowledge of the inability of silver wire to stand twisting sufficiently tightly to properly unite the fragments. The technical principles of suturing bone should be the same as those in general plastic surgery, viz.: thorough asepsis, accessible exposure, avoidance of force and tension of the tissues, exact hemostasis and accurate apposition of the wound margins. The periosteum must be treated as carefully as the peritoneum. It is incised longitudinally and gently pushed aside with a broad elevator. Old adhesions are thoroughly freed by the knife; blunt force must be avoided. Loose bone splinters are removed; the bone ends are trimmed and a hole is bored through each ragment, about an inch from the end. After approximation is possible without force, the wire is put through the holes without being knotted. The fragments are then pressed down into place and the wire is twisted with a strong-handled steel twister. If properly applied the fragments can not be moved except by great force. The periosteum is minutely united with catgut around the twisted wire; the same is done with the fascia and skin. The twisted wire itself is surrounded with two silk sutures at the skin, which answers the purpose of fortification and relaxation. After from four to six weeks the wire is taken out. The wound, covered with bismuth subgallate gauze and this with absorbent moss board, is immobilized by a large plaster-of-Paris splint, and a fenestrum my be left in the dressing to control the wound. Beck condemns cutting the wire off just above the bone and leaving it in situ, as it will cause irritation and as a rule degenerative changes take place around it. A number of cases are reported illustrating the author's methods.

Nerve Anastomosis in Infantile Paralysis.—Dr. Karl Osterhaus, Norfolk, Va. (Med. Record, July 11), says that a great deal of the deformity which occurs in infantile paralysis could be prevented by early treatment of the acute stages of the disease tending to limit the area involved, and by fixation of the limb in a normal position when the acute symptoms have subsided. Later these deformities require some form of operation to correct them, such as tenotomy, myotomy, tendon and muscle transplantation, astragalactomy, arthrodesis, or osteotomy. All of these procedures are of value in selected cases. The attempt to cause innervation of the paralyzed muscles by connecting them with a healthy nerve is of great value. This operation can do no harm, and in many cases does much good. End-to-end anastomosis of split-off segments of the two nerves promises the best results by means of closer union. Massage and electricity should be used after the operation to aid in regeneration of function of the affected muscles. The author describes a case operated on in this way with very beneficial results.

THE telephone as a factor in the transmission of disease was recently made the subject of an interrogation in the English Parliament. In England the telephone service is a government affair, being conducted by the postal authoritites. The question was brought up by an article by Dr. Allan, published recently in the Lancet, in which the statement was made that disease germs were found in one out of six public telephones. The Postmaster General declared that none of the numerous devices for the prevention of infection of the transmitters have proved practicable, and that the only safeguard against infection is frequent washing.

MEDICAL MELANGE.

Dr. A. L. Benedict, of Buffalo, one of the Fortnightly's valued contributors, now making a tour of Europe, has gone from England to Paris, where he will spend some time in visiting places of interest and then further extend his tour to the interior of the continent. We hope the doctor will favor us with some pen picures of his travels in foreign lands.

Women medical students are winning laurels this year. Miss Jeannete Miller, of Massillon, Ohio, has just graduated with the highest honors of her class from the Cleveland College of Physicians and Surgeons. The day after her graduation Dr. Miller took charge of the Maternity Hospital in Cleveland. She will remain there three months and then engage in private practice.

Mississippi is also in the clutches of a serious epidemic of healthfulness. The Secretary of the State Board of Health is receiving semi-annual reports from the county health officers, covering the period of six months ending on July 1. The reports thus far received show that Mississippi is in a very healthy condition at this time. Only a few cases of smallpox are reported, the disease is of a very mild type, and there have been no other serious infectious ailments in any of the counties.

To save the babies' lives, the city council of Chicago made a special appropriation of $10,000, July 10. Intestinal diseases among infants, caused chiefly by the hot weather, have been of such frequent occurrence in Chicago that, according to relative figures, the total deaths of babies due to these complaints this year will reach the startling total of 3,414. The $10,000 is to pay 100 physicians who will be employed by the city to disseminate information concerning the causes and prevention of summer sicknesses among babies.

Cocaine Peddlers Arrested.—Two prisoners charged while peddling cocaine by a New York inspector of foods and drugs of the Department of Health were recenly arraigned in New York and held in $1,000 bail for trial. It was stated that the inspectors were on the trail of a Brooklyn man whose business was to supply cocaine to agents who peddled it in the vicinity of the Pennsylvania tunnel excavation. In Pennsyvlania, during June, a man and a woman, both colored, charged with being ring leaders in the cocaine traffic in Harrisburg, were arrested, convinced, and sentenced to six months in jail.

Horseflesh as Food.—Vienna will shortly open new municipal slaughter houses for the killing of horses. There has been a steady increase in the consumption of horseflesh in the city, over 20,000 horses have been slaughtered for food during the last year. Most of the flesh is made into sausages of various kinds. The new buildings cover an area of 3,300 square yards and provide stabling for 200 horses and stalls for killing fifty-nine, each fitted with hoisting apparatus.

The Drinking Water on Railway Trains.—After recent investigations, the Department of Health of the State of New York reports that the water supplied passengers on railway trains in the state correspond in quality to that of the cities and towns through which the roads pass. The supply is usually drawn from the city supply at relay stations, though on the dining cars special spring water is furnished on most lines. In a few instances only was the source of supply open to objection, and it is understood that in these a change will be made.

Lake Michigan Water Commission.—The Lake Michigan Water Commission was organized recently at Grand Rapids for the purpose of the prevention of pollution of Lake Michigan by legislation prohibiting the flow of sewage into the lake. The commission is composed of surgeons from Michigan, Wisconsin, and Illinois, and the War Department, and Public Health and Marine-Hospital Service. The following plans were agreed on at the recent annual meeting of the commission to further their work: To gather further information as to the existing conditions of the water supply; to study conditions from a hygienic standpoint; to discover whether or on Lake Michigan is polluted, with special reference to conditions along the shores; to analyze the present condition of the lake water with relation to depth; to study the problem of non-sewered towns, both those using lake water and those getting their supply from wells, and, finally, the pollution of streams emptying into the lake.

A Question of Fees.—There exists a tendency among some of us—men who are, for the most part, honest and honorable—which is, it seems to me, below the dignity of our calling. I refer to the tendency to regulate one's fees according to the means of his patient. It is well that a man should have a more or less definite estimate of the value of his services, a fixed maximal charge for work of a certain character, a charge which, in justice to himself, he should always make, unless he has reason to believe that the patient is not in condition to meet it. He will of-

ten, with a large proportion of his patients, perhaps, be obliged to accept less than the value of his services. But that he should speculate on the wealth of the rich, that he should demand exceptional recompense from the millionaire because of his wealth, is to make medicine a trade; is to bring distrust and suspicion and discredit on his profession; is to put a serious obstacle in the way of all the great reforms which we as physicians and sanitarians hope to accomplish.—Thayer, in Amer. Medicine.

The Treatment of Coal-Gas Poisoning.—We wish to call the attention of our readers to a little remedy in coal-gas asphyxia that has proved very efficient, but with which, we fear, not many are familiar. We refer to the administration of hydrogen dioxide per retcum and per os. Per rectum it is given in full strength; per os, it is diluted with an equal volume of water. The dose of the dioxide per rectum is about two ounces, per mouth about one ounce; and it may be frequently repeated. The usefulness of the treatment depends upon the absorption of oxygen from the hydrogen peroxide into the blood current. A piece of ice inserted into the rectum is a great adjuvant, as it has quite a remarkable effect in resorting consciousness.—Critic and Guide.

Alum in Ivy Poisoning.—Charles W. Reynolds, after employing many different drugs without avail in rhus poisoning on his own person, decided to use alum. Moistening the skin of the arms and legs, as well as the hands, he rubbed a cake of alum over the same, taking particular pains to scrape off the tops of the little "blisters," while he was enjoying the scratching process. He got relief from the desire to scratch in about ten minutes. The rash disappeared in two or three days. With this experience, on his next exposure to the ivy he proceeded to rub alum, the skin being moistened. He had only a few spots of irritation in his third and fourth attacks, all drying up in two days, and he suffered no inconvenience. This season, so far, he has pulled more poison ivy than in all of his last season's "success," with only two or three little spots to show for it. Before starting out on his jaunt he rubs the alum over his face, neck, and arms. On his return he washed with sapolio, using a brush, then plain water, followed by the alum. Last year he did not use anything except the alum, and was as free of any bad effects as he has been his year.—The Lancet-Clinic.

Lactone Buttermilk.—For infants the merits of buttermilk as a food are worthy of note. Of course the best of all infant foods is mother's milk, but nearest to it of anything that is within reach of the masses is cows' milk. Unfortunately, however, cow's milk is not nearly so easy to digest. Here is where lactone buttermilk comes in. It provides for the infant "all the good of the milk" in a form its stomach will readily accept and digest. As it is made at home the mother can assure herself that it is pure and wholesome, and, as it keeps well, a quantity can be made up to last for several days. Furthermore, on account of the germicidal action of the lactic acid it contains, infants who are fed on it are not apt to contract the intestinal infections that are so prevalent, especially in summer. To suit special needs the percentage of fat in it can be reduced by skimming off some of the cream before adding lactone, for lactone acts as readily on skimmed milk as on whole milk. Likewise, rice flour and sugar may be added if it is deemed necessary to increase the carbohydrates.

Some Plain Truths About Syphilis.—L. Duncan Bulkley of New York, brings forward some plain truths about syphilis. It is much more common than is generally known, about twelve per cent of all skin diseases resulting from it. It is not necessarily a venereal disease, especially among women. In about 50 per cent of married women it comes from the husband. In its earlier stages it is very contagious, and in neglected cases contagion exists for many years. It has been ignored through ignorance and neglected through negligence. It is a really serious affection, that may attack the most vital organs and affect the progeny of the race Although a rebellious disease when untreated, if properly managed it is quite tractable—when treated for a sufficient length of time

The importance is not sufficiently realized by the laity and the profession of preventing and curing the disease. Alcohol is harmful, even when moderately used. Tobacco increases the liability to mucous lesions about the mouth. Mercury is the one and only specific remedy. Iodide of potassium is only an adjuvant in the later stages. The patient must be treated as well as the disease. The mineral spring treatment is of very little value.—Medical Record.

ANATOMICAL IRONIES.

Though a roll of parchment
  Is a thing to be desired,
And a graduate is happy
  O'er the knowledge he's acquired;
Yet the gulf in earning power
  He observes with some alarm
'Twixt the brain he brought from college
  And the baseball expert's arm.
—June Lippincott's.

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Contributions and books for review should be addressed to the Managing Editor, 319 and 320 Century Building, St. Louis, Mo.

FAVORITE PRESCRIPTIONS

FORMALDEHYDE AGAINST THE BITES OF INSECTS.—According to Jotly (Presse medicale), the following mixture is useful to allay the irritation caused by the bites of most quitoes and similar insects. The parts bitten should be lightly touched with the solution by means of the glass stopper of the container:

℞ Formaldehyde solution.....3iv
Acetic acid.....*m*x
Xylol.....3iss
Canada turpentine .....gr. xv
Oil of star anise.....q.s.
M.

MIGRAINE.—

℞ Potassi bromidi.....gr. xx
Syr. aurantii.....fl.3j
Aqua camphorae.....fl.ʒ

Ft. mistura. Sig. Two tablespoonfuls to be taken at once and repeated in an hour if necessary.

℞ Tinct. cannabis indicae.....
Tinct. gelsemii .....aa *m*x
Mucil. acaciae .....
Syr. simplicis.....aa fl.3j
Aq. q. s. ad.....fl.ʒj

Ft. mistura. Sig. Two tablespoonfuls at a dose and repeat in two hours if necessary.

℞ Ammonii chloridi.....gr. xx
Tinct. gelsemii.....*m*xv
Syr. aurantii.....fl.3j
Aq. cinnamoni, q. s. ad.....fl.3j

Ft. mistura. Sig. One tablespoonful at a dose and repeated in three hours if necessary.

℞ Liq. arsenicalis .....*m* iij
Ammon. bromidi.....gr. v
Syr. aurantii.....fl.3ss
Aq. camphorae, q. s. ad.....fl.3j

Ft. mistura. Sig. Two tablespoonfuls at a dose after each meal.

℞ Sodii arsenatis.....gr. $\frac{1}{12}$
Ext. cannabis indicae.....gr. $\frac{1}{6}$
Ext. belladonnae .....gr. $\frac{1}{4}$
Zinci valerianatis .....gr. 2

M. Ft. pil. No. j. Sig. One such pill to be taken after meals.—Colbeck and Chapin, Merck's Archives.

ALOPECIA.—Sabouraud recommends the following:

Ol. cadini.....ʒiiss
Lanolini 3v
Acidi pyrogallici.....
Hydrarg. oxidi flavi.....
Resorcini.....aa gr. xv

M. et ft. ungt.

Lanolini.....
Petrolati.....
Ol. cadini.....aa ʒiiss
Ol. betulae .....*m* xv
Hydrarg. subsulph. flav.....
Sulph. precipitat.....aa gr. xv

M. et ft. ungt.—Med. Record.

COMING MEDICAL MEETINGS.

National Meetings

International Congress on Tuberculosis, Washington, D. C., September 21 to October 12.

Mississippi Valley Medical Association, Louisville, Ky., October 13-15, 1908.

Medical Society of the Missouri Valley, Council Bluffs, Iowa, Sept. 3-4, 1908.

Medical Association of the Southwest, Kansas City, Mo., October 20-21, 1908.

State Meetings

Colorado, Denver, October, 1908.
Idaho, Boise, October 8-9, 1908.
Kentucky, Winchester, October.
Minnesota, St. Paul, October.
Nevada, Goldfield, October 6-7.
New Mexico, Albuquerque,
Oregon, Portland, July.
Washington, Walla Walla, September 2-4.
Wisconsin, Milwaukee.
Wyoming, Sheridan.

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	99.50
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Meat Phosphates	.26
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SOCIETY PROCEEDINGS

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Twenty-fifth annual meeting in Council Bluffs, Iowa, September 3 and 4, 1908.

PRELIMINARY PROGRAM:

President's Address, W. F. Milroy.

Address on Medicine, C. B. Hardin.

Rheumatic Considerations, F. E. Walker.

Demonstration of a New Portable Traction Apparatus for Treating Fractures of the Femur and for Various Orthopedic Operations, Chester M. Echols.

Paper (title to be announced), R. Emmet Kane.

Ectopic Gestation, A. R. Kieffer.

Therapeutic Use of the Induced Hyperemia in Nasal and Aural Affections with a Consideration of the Opsonic Index, Eugene Richards Lewis.

The Influence of Nasal and Post-Nasal Obstruction in Childhood, Lee Wallace Dean.

Pyloric Stenosis in Infants, H. M. McClanahan.

Acute Appendicitis Accompanied by Local Suppurative Adenitis, G. G. Cottam.

A Form of Uric Acid Autointoxication, Due to the Non-use of Meat, R. J. Midgley.

The Mechanical Factors in Cold Taking and Their Therapeutic Interpretation, David C. Hilton.

Dystocia in Apparently Normal Conditions, Andrew B. Somers.

Regulation of the Practice of Medicine by the State, Joseph T. Clegg

Nervous Children, Isaac A. Abt.

Rapid Method of Treatment of Granulating Surfaces Preceding Skin Grafting and its Application to Septic Wounds in General, Jules F. Menestrina.

Some Uses of Thyroid, E. W. Demaree.

The Diagnosis of Coxa Vara, D. T. Quigley.

Care of the Perineum During and After Parturition, J. H. Talboy.

The Use of Morphine in Heart Disease, LeRoy Crummer.

Plague Rat: Ocean Vessels, C. Engel.

Diet in Hyperacidity, J. Malseed Bell.

Paper (title to be announced), Frank P. Norbury.

Congenital Cysts of the Neck—report of Case, L. A. Todd.

At the evening session Dr. E. H. Skinner, of Kansas City, will deliver a lecture on "A Plea for Exactness in the Diagnosis of Kidney and Bone Lesions by the Roentgen Method," illustrated by stereopticon slides and moving pictures.

The profession cordially invited.

If you do not receive copy of program in due time, please notify the secretary. Bear in mind the dates: September 3 and 4.

W. F. MILROY, President. CHAS. WOOD FASSETT, Secretary.

INTERNATIONAL CONGRESS ON TUBERCTLOSIS.—Preparations are in progress for an excursion party to Washington for the Missouri Valley to attend the International Congress on Tuberculosis, which meets on September 21, and continues for three weeks. For itinerary and full particulars, address Dr. Chas. Wood Fassett, Secretary Medical Society of the Missouri Valley, St. Joseph, Mo.

MEDICAL MEMORANDA.

Phillips' Milk of Magnesia Versus Lime Water—The importance of Phillips' Milk of Magnesia over lime water for neutraling milk for bottle fed babies, and in the prevention and treatment of summer colic and bowel complaint of infants and children cannot be overestimated, The variable strength of lime water, the impurities too often contained therein, and its constipating effects are among its objectionable features.

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Summer Dysentery As It Appears Hereabouts, Its Treatment, Etc.—(By C. H. Powell, Professor Principles of Medicine, Physical Diagnosis and Clinical Medicine, Barnes Medical College, St. Louis, Mo.)—Case 1. Dysentery in a child aged seven years. I was one very hot day in August summoned to the bedside of little Jimmie McL., who was suddenly compelled to go to bed screaming and crying with his stomach paining him I found his features pinched and lips pursed together, his face very pale and eyes looking hollow and expressionless. His mother stated that the little patient had been complaining of not feeling well for the twenty-four hours and she noticed that he slept but very little the night before, and made several trips to the closet. Believing that dysentery after all is brought about by germs, the thought occurred to me that if I could give some efficient but mild germicide internally and at the same time could flush the bowel with the same antiseptic, I would have the key to the situation; accordingly I gave a teaspoonful dose of glyco-thymoline internally every three hours and put about one ounce of glyco-thymoline to the pint of water, with which I flushed out the entire sigmoid flexure of the colon by passing the fluid through a good sized catheter high up into the bowel. An immediate improvement at once manifested itself, the pulse became perceptibly stronger, the fever reduced, the little one became brighter in the face and the case at once changed from a very apparently serious one to one of little importance. A dose of castor oil was given on the second day and the patient made a quick recovery. On the third day all indications of the attack disappeared and the patient made a prompt return to health.

Case 2. Dysentery consecutive to an attack of Typhoid Fever. This case was very interesting as the prevailing complication that occurred two weeks after an attack of typhoid was attributed by the attending physician to non-healing of the typhoid ulcerations. The principal symptom was in the nature of diarrhea, with tormina or tenesmus and the passage of some blood. There was a recurrence of the febrile phenomena which was believed by the physician in attendance to be a recurrence of the typhoid. I satisfied myself from the nature of the attack that it was in reality dysenteric and that it was produced by an error in diet, accordingly I recommended the use of peptonized milk internally as a food, tablespoonful doses of glyco-thymoline in a little water every four hours and wash out the bowels with solution of about two ounces glyco-thymoline to the pint, using in this case water just as hot as could be tolerated by the patient In twenty-four hours the fever was gone, the diarrhea stopped and the bloody discharge became checked. The patient, very much to the surprise of the doctor who was in attendance, was completely relieved of the dysenteric phenomena in twenty-four hours and recovery in other directions from that time forward was uneventful.

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